

## ABSTRACT

A unique system and method for laser vapor deposition of a material onto a substrate are disclosed. The system includes a laser source configured to emit a laser beam, a target material positioned in front of the laser source to be struck by the laser beam, and a substrate positioned behind the target material in relation to the laser beam. The laser beam strikes the target material causing a portion thereof to melt. The melting zone propagates through the target material until it reaches the opposing surface, and a vaporized portion of the target material is ejected onto the substrate. The target material can be deposited onto the substrate in a pre-determined pattern with a pre-determined thickness. In another embodiment of the invention, the target material can be deposited on a cassette structure to facilitate easy access.

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WORKMAN NYDEGGER  
A PROFESSIONAL CORPORATION  
ATTORNEYS AT LAW  
1000 EAGLE GATE TOWER  
60 EAST SOUTH TEMPLE  
SALT LAKE CITY, UTAH 84111